REMARKS/ARGUMENTS

In the Office Action dated May 21, 2007, Claims 15-19 and 21-25 are pending and elected, of which Claims 15 and 21 are independent. Claims 15-19 and 21-25 are rejected under 35 U.S.C. § 103(a) on the sole basis of being unpatentable over US 2004/0195319 (Forster) in view of the general description of a UHF tag in the present application (hereinafter the "Patent Disclosure") and further in view of U.S. Patent No. 7,023,391 (Wuidart, et al.).

Applicant respectfully requests reconsideration in light of the following remarks.

Independent Claim 15 is directed to a near field coupling device and recites a plurality of lines electrically interconnected in parallel, a ground plane spaced away from the plurality of lines, and a terminating resistor coupled to the lines. The terminating resistor is selected not to match a characteristic impedance of the plurality of lines. It is believed that this mismatch with the characteristic impedance of the lines generally increases the transfer standing wave ratio provided by the coupling device and allows a more effective energy transfer to a transponder. Further, although the impedance mismatch may decrease the coupler's bandwidth for communication, a sufficient bandwidth can be achieved by the provision of the slots between the transmission lines.

Forster describes an RFID device detection system that includes a proximity locator **12** having a pair of parallel transmission lines **114, 116** (Figure 9). The Office Action acknowledges that Forster fails to disclose both (1) a ground plane, and (2) a terminating resistor that is selected not to match a characteristic impedance of the lines of the near field coupling device, as set forth in Claim 15; however, the Office Action asserts that it would have been obvious to modify Forster to include these features. In particular, the Office Action relies on the description of the prior art set forth in the background of the present application as teaching a ground plane, and relies on Wuidart, et al. as teaching a terminating resistor as claimed.

Applicant disagrees on the bases that it would not have been obvious to modify Forster to achieve the claimed invention, even in light of Wuidart, et al. and the admitted prior art. As explained below, the references do not provide motivation for the various modifications of Forster. Moreover, even if combined, the references do not teach each of the elements of the claims.

First, regarding the ground plane of Claim 15, the Office Action relies solely on the disclosure set forth in the background of the present application. The present application does illustrate (Figure 1) a conventional microstrip that includes a ground plane **9**; however, the prior art disclosed in the present application does not provide any motivation for modifying Forster as suggested in the Office Action. In response to Applicant's prior arguments in this regard, the Office Action states that "the motivation to combine reference Forster and the Admitted Prior Art was to keep the insertion loss, mismatch, undesirable coupling among elements to a minimum." However, the Office Action does not refer to any reference for this alleged motivation, and neither the alleged Patent Disclosure nor Forster provides this motivation for modifying Forster to include the ground plane. Indeed, the Office Action does not refer to any reference that indicates how the insertion loss, mismatch, and undesirable coupling among elements are kept to a minimum by modifying Forster to include the ground plane of the alleged Patent Disclosure. Since neither the alleged Patent Disclosure nor Forster provides any motivation for modifying Forster to include the ground plane **9** of the conventional microstrip illustrated in Figure 1 of the present application, it would not have been obvious to modify Forster in this way to achieve the claimed invention without improperly relying on hindsight.

Regarding the second proposed modification of Forster, the Office Action relies on Wuidart, et al. as teaching a terminating resistor as claimed and seeks to combine Wuidart, et al. with Forster. Applicant has previously provided an extensive explanation of Forster's use of a matched resistor. For example, as set forth in the Affidavit by Boris Tsirline, a person skilled in the art would understand from Forster that the resistors (shown in Figure 22) "together form an equivalent circuit of a common resistor specifically selected to match the line impedance." Affidavit by Boris Tsirline, filed with the Response dated August 8, 2006. Indeed, Forster refers to a terminating resistor **32** that "functions as a load, restricting the power reflected back to the reader, which can cause a malfunction or in certain cases damage to the reader circuitry. . . . The value of the resistor may be chosen in combination with the characteristic impedance of the transmission line so that the structure, when measured via the matching network, provides a good impedance match." (Paragraph 0053). Thus, Forster specifically teaches away from a terminating resistor that is selected not to match a characteristic impedance of the lines of the near field coupling device, as set forth in Claim 15.

Wuidart, et al. illustrates a terminal **20** in Figure 3B for reading from and writing to a transponder. The terminal includes a resistor **R1** and capacitor **C1'** that can be in parallel or series with an antenna **30** that includes parallel inductances **L11-L14**. *See* col. 5, lines 6-16. Wuidart, et al. fails to cure the deficiency of Forster because Wuidart, et al. is silent on the value of the resistor. That is, Wuidart, et al. fails to disclose that the resistor is matched. Nor does Wuidart, et al. provide any motivation for the resistor to be unmatched. Therefore, a person of ordinary skill in the art would not be motivated by Wuidart, et al. to modify Forster to achieve the present invention. Indeed, the cited references, even in combination, fail to disclose this feature of the invention, and the silence of Wuidart, et al. regarding the resister value would not motivate the modification of Forster in a manner contrary to the specific teachings of Forster.

Further, Claim 15 recites that the terminating resistor is "selected not to match a characteristic impedance of the plurality of lines." For example, as described in the present application, the near field coupler **30** can operate as a one-half wavelength unmatched transmission line with a **15** ohm characteristic impedance that is terminated by a **50** ohm terminating resistor **8** so that signals generated by the transceiver **42** passing along the transmission line generate an extremely local near field effect emanating from the transmission line edges that couples with a transponder **1** passing through the transponder operating region. *See* paragraph [0034]. The Office Action asserts that the resistor **R1** of Wuidart, et al. corresponds to the terminating resistor of Claim 15; however, even if the resistor **R1** of Wuidart, et al. were mismatched, Wuidart, et al. does not teach that the resistor provides the same "mismatch" set forth in Claim 15. That is, Wuidart, et al. does not teach or suggest that the resistor **R1** is chosen to not match a characteristic impedance of a plurality of lines coupled to the resistor, as recited in Claim 15.

Thus, even in combination, the cited references do not teach or suggest each of the features of Claim 15 and dependent Claims 16-19.

Independent Claim 21 is directed to a near field coupler for communication with a transponder located in a transponder operating region. Similar to Claim 15, the near field coupler includes a plurality of lines coupled to a terminating resistor selected not to match a characteristic impedance of the plurality of lines. The cited references fail to disclose this feature for the same reasons described above in connection with Claim 15. Further, Claim 21 recites

that the near field coupler receives an RF communication signal and is "configured to produce an array of spaced near field concentrations responsive to the RF communication signal, the spacing of said near field concentrations along a predetermined direction being significantly less than a smallest dimension of said transponder in said predetermined direction such that said transponder overlaps and is excited by a plurality of said field components when located in said transponder operating region." For example, as illustrated in Figure 5a of the present application, the near field coupler **30** provides a transponder operating region **C** with narrow null gaps in the region, as illustrated by **d**, **e**, **f**, and **g**, and the spacing of the near field concentrations in the direction **L** is significantly less than the smallest dimension of the RFID transponder **1** in the direction **L** so that the transponder overlaps and is excited by a plurality of the field components when located in the transponder operating region **C**. *See* paragraph 35.

The Office Action relies on Forster in this regard, and cites Figures 1-10 and paragraphs [0083] and [0084] of Forster. However, neither the drawings nor the cited paragraphs of Forster teach or suggest the recited features. In particular, Forster does not illustrate any array of spaced near field concentrations and, moreover, does not teach that the spacing of the near field concentrations along a predetermined direction are significantly less than a smallest dimension of the transponder in the predetermined direction so that the transponder overlaps and is excited by a plurality of the field components when located in the transponder operating region. To the contrary, Forster states in paragraph [0084] that RFID devices can be read when swiped across the surface **110** formed by the transmission line structure **17**. Forster does not teach or suggest that a spacing of near field concentrations is so small relative to the RFID devices that a single RFID device overlaps and is excited by multiple field components. Applicant previously noted this distinction, but the Office Action does not address this deficiency of Forster.

Accordingly, Applicant asserts that Claim 21, and dependent Claims 22-25, are allowable for this additional reason, in addition to those set forth above in connection with Claim 15.

For the above reasons, Applicant submits that all of the pending Claims 15-19 and 21-25 are allowable.

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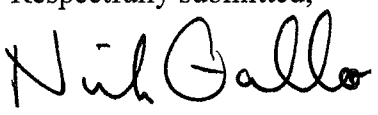
CONCLUSIONS

In view of the remarks presented above, Applicant submits that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicant's undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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